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## From “Cells and Bells” to Learning Communities

Renovating school facilities for student-centered learning

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Letter



*A hallway is transformed into a learning community at Hillel Academy in Tampa, Fla.*

The United States has more than \$2 trillion of net worth tied up in its school facilities, making it the country’s single largest educational investment. The average age of schools in most districts across the nation is between 30 and 50 years. On top of increasing routine maintenance expenses that total many hundreds of millions of dollars, more than \$12 billion is spent annually to modernize, add to, or build new schools.

Traditional school buildings, however, fall far short when evaluated against the goals of modern-day teaching and learning in which teachers facilitate, rather than direct, learning and students are personally and actively engaged in their own education. In fact, an older school building actually prevents the delivery of a true 21st-century education, while well-designed school buildings can be a catalyst for pedagogical change.

Given the huge investment school districts make in facilities each year, it’s worth investigating how,

with modest funds, traditional buildings can be reconfigured to change the dominant teacher-centered educational paradigm to a more student-centered one. While the buildings themselves are only one piece of the change process, they become a powerful, visible symbol of a new way to deliver education.

## **Multiple Modalities of Learning**

We have identified 20 modalities of learning that can become the basis for the design of effective learning spaces (see sidebar, “20 Modalities of Learning”). During a typical week, students in most schools will experience many, if not all, of the 20 modalities of learning. However, traditional classrooms are not consciously well designed to accommodate a variety of learning activities. For example, teachers could ask 25 students to sit quietly at their desks and read, and an observer could then say that all 25 students are “learning independently.” What this observation fails to account for is that given an opportunity to pick their own type of space in which to read quietly, few children would choose their uncomfortable desk and chair as the ideal place for this activity. A well-designed school will provide a variety of areas that students could pick from depending on their own personal preferences for the activity in question. For this reason, I assert that traditional classrooms are “well designed” only for two learning modalities—teacher lectures and student presentations.

## **20 Modalities of Learning**

1. Independent study
2. Peer-to-peer tutoring
3. One-to-one learning with teacher
4. Teacher lecture
5. Team collaboration
6. Project-based learning
7. Distance learning
8. Learning with mobile technology
9. Student presentations
10. Internet-based research
11. Roundtable discussions
12. Performance-based learning
13. Interdisciplinary study
14. Naturalist learning
15. Art-based learning
16. Social-emotional learning
17. Design-based learning
18. Storytelling
19. Team teaching and learning
20. Play- and movement-based learning

The vast majority of our schools are designed as “cells and bells”: Students occupy cells called classrooms until the bell rings, and then they move on to another cell. In the journey from a 20th-century to a 21st-century school design, the first and simplest step is to convert hallways and classrooms into *learning studios*. Very simply, a learning studio is a classroom that is consciously redesigned to increase the number of learning modalities that can be accomplished within its four walls. In fact, the most common example of a learning studio is an early-childhood classroom. These classrooms are usually outfitted with various age-appropriate “learning centers” for different activities—say, sand and water tables, a reading area, a meeting rug, a dress-up corner, and so forth.

Learning studios are well designed for between five and seven modalities of learning—significantly more than traditional classrooms. However, learning studios for younger and older students will be

designed differently because elementary-age children spend more time in their homerooms and need access to more modes of learning there, whereas older students are more mobile and have access to specialized facilities in other parts of the school that cannot be accommodated within their learning studio.

*Learning suites* are created when two or more learning studios are combined by the opening up of a wall between studios by way of a simple opening, a sliding door, or a movable wall. While the removal of a barrier is a relatively small architectural change, it has a major impact on teaching and learning. Suddenly, teachers are no longer isolated with a defined group of students. The educators can work collaboratively and have more opportunities to rearrange student groups, provide one-to-one help for students who need it, work in block schedules, create interdisciplinary projects, share space to increase learning opportunities (because both studios don't have to be designed identically), and create mixed-age groupings.

Even with a traditional school staffing structure that allocates 25 students to one teacher, teachers in a suite of learning studios can work together, perhaps each with a different purpose, to create a wider range of learning opportunities. Learning suites are suitable for 10 modalities of learning, including one-to-one learning with the teacher, peer-to-peer tutoring, and team teaching and learning.

This brings us to the design of *small learning communities*, where we start to look beyond individual classrooms and classroom pairs to the entire wing of a traditional school building. When the space occupied by the same group of classrooms and hallways is transformed into a small learning community, the number of potential learning activities increases dramatically. Small learning communities allow 19 of the 20 modalities of learning to be done well.

### **Don't Wait for the Big Money: Three Cases**

Several districts illustrate how modest investments can make a significant difference in providing modern learning spaces for students.

At around 3,000 students, Middletown Public Schools in Middletown, R.I., is a fairly typical U.S. school district. In 2006, the district decided to take stock of its aging school facilities and commissioned a master plan to determine what it would take to upgrade or replace the schools to 21st-century standards. The price tag of \$121 million contained in the 2007 master plan was staggering and, realistically, beyond what this small, middle-class town could raise from its citizens. Instead, Middletown embarked on a program of incremental, low-budget pilot projects.

The first project was Forest Avenue Elementary School, where a wing of the school housing the school's kindergarten and first-grade students was selected for a pilot renovation to convert the wing into a small learning community with a variety of spaces, including a large commons area that captured the area previously used as a hallway. Of particular importance was the teachers' decision that they would like to work collaboratively rather than individually in classrooms, as they had done before. Students would continue to be assigned to a homeroom teacher but would also have unfettered access to all the other teachers who worked in the community.

Middletown's first pilot project—the Forest Avenue Elementary School Early Learning Center—opened in 2008. It was built over one summer at a cost of about \$180,000. The success of the pilot has spawned a total of five other pilot projects at various district schools, with costs varying from \$90,000 to \$320,000. These projects included an additional fourth- and fifth-grade learning community, an Internet café where an old library once existed, and a high school art center.

When Amy Wasser, the principal of Hillel Academy (a preK–8 school of 200 students in Tampa, Fla.), first started looking at the possibilities for improving the tired old school campus, she had a difficult time getting people to pay attention. After all, as a Blue Ribbon School of Excellence, the

school seemed to have no compelling reason to spend money on the buildings. Consequently, she decided to start small. The first project at the school involved the opening up of two early-years classrooms to the outdoors to enable teachers in adjoining classrooms to work together and extend learning onto an outside paved area. The success of this initiative, despite some early misgivings, led to a fundraising campaign for a larger project to renovate the entire elementary school building. The entire school was renovated over three summers, and each project was accomplished for relatively small sums of money (around \$250,000 each for complete renovations of the 10,000-square-foot elementary and middle schools). This is a fraction of what schools and school districts normally spend on building renovations on this scale.

At the height of the economic downturn in 2009, the community of Bloomfield Hills, Mich., was facing a shrinking enrollment, reduced budgets, and two 50-year-old obsolete high school buildings requiring millions of dollars in capital improvements. Many proposals for fixing the problems were considered. The first involved the creation of two new and smaller schools at the location of the existing campuses. This proposal would have cost upward of \$150 million and was defeated by the community in a bond referendum. The school district subsequently came up with another proposal, this time for one new high school that would consolidate the populations of both high schools at one site. This proposal, priced at \$97 million, was also defeated in a bond referendum. Notably, neither of these proposals envisioned a significant departure from traditional school design.

By this time the community was up in arms, urging the recall of the school board. There was tremendous bitterness about the whole high school mess, with mounting opposition to any major capital improvement program to fix the schools. A new superintendent, Rob Glass, was hired, and he immediately set about mending fences with the community. He established a leadership team that included both proponents and opponents of a new high school.

The team's efforts to form a vision and a plan began with a detailed facilities assessment followed by a leading practices workshop, where the community heard about success stories of school transformation from around the world. Next came several "fireside chats" to give small groups of community residents an opportunity to share their thoughts and ideas. Several online surveys and focus groups were conducted, and a new hybrid plan emerged as a result. This plan would preserve much of the existing high school, demolish portions that were dysfunctional, and build additions to create a brand-new, state-of-the-art, 1,500-student Bloomfield Hills High School. The scale of the school would be broken down through the creation of 11 learning communities, none of which would exceed 150 students.

Most important to the success of the new plan was that it was seen as a way to upgrade not just the school facility but education itself. Community support slowly built for the new hybrid plan, which was priced at \$67 million (\$30 million less than the last plan rejected by the community), and when the proposal was put on the ballot once more in a special election during May 2012, it was approved by an overwhelming 61 percent majority, sweeping 27 out of 30 precincts. The project started construction in 2013, and the school opened in the fall of 2015.

These case studies provide two important lessons. One, 21st-century schools do not have to cost more than traditional schools and can, in fact, be developed for substantially less money. Two, even at a time of fiscal austerity, communities will step up to the plate if they get the message that school facilities spending is not just about buildings but about a whole new way to educate their children.

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